

CLAIMS

- 1 1. A layered video encoding system, comprising:
2 a base layer encoder for receiving a video signal and outputting a base layer
3 stream; and
4 an enhancement layer encoder that includes a plurality of discrete cosine
5 transform (DCT) modules and a selection system for selecting one of the DCT modules.
- 1 2. The layered video encoding system of claim 1, wherein each of the plurality of DCT
2 modules comprises a different precision.
- 1 3. The layered video encoding system of claim 1, wherein the selection system selects
2 one of the DCT modules based on an available level of computing resources.
- 1 4. The layered video encoding system of claim 1, wherein the selection system selects
2 one of the DCT modules based on an encoding bit rate.
- 1 5. The layered video encoding system of claim 1, wherein the selection system selects
2 one of the DCT modules based on a required quality level.
- 1 6. The layered video encoding system of claim 1, wherein the selection system selects
2 one of the DCT modules based on a decoder capability.

1 7. The layered video encoding system of claim 1, wherein the selection system selects
2 one of the DCT modules based on bandwidth availability.

- 1 8. A program product stored on a recordable medium for encoding a layered video
2 signal, the program product comprising:
3 means for receiving a video signal and outputting an encoded base layer stream;
4 and
5 means for encoding an enhancement layer, wherein the enhancement layer
6 encoding means includes a plurality of discrete cosine transform (DCT) modules and
7 selection means for selecting one of the DCT modules.
- 1 9. The program product of claim 8, wherein each of the plurality of DCT modules
2 comprises a different precision.
- 1 10. The program product of claim 8, wherein the selection means selects one of the DCT
2 modules based on one of the group consisting of: an available level of computing
3 resources; an encoding bit rate; a required quality level; a decoder capability; and
4 bandwidth availability.

- 1 11. A method of encoding a video signal in a layered manner, comprising:
- 2 receiving the video signal in a base layer encoding system;
- 3 outputting an encoded base layer stream;
- 4 receiving data from the base layer encoding system into an enhancement layer
- 5 encoding system;
- 6 providing a plurality discrete cosine transform (DCT) modules in the
- 7 enhancement layer encoding system;
- 8 selecting one of the plurality of DCT modules; and
- 9 generating an encoded enhancement layer stream using the selected DCT module.

- 1 12. A layered video decoding system, comprising:
2 a base layer decoder for receiving and decoding a base layer video stream; and
3 an enhancement layer decoder for receiving an enhancement layer video stream
4 and generating a decoded enhanced video output, wherein the enhancement layer decoder
5 includes:
6 a plurality of inverse discrete cosine transform (IDCT) modules; and
7 a selection system for selecting one of the IDCT modules.
- 1 13. The layered video decoding system of claim 12, wherein each of the plurality of
2 IDCT modules comprises a different precision.
- 1 14. The layered video decoding system of claim 12, wherein the selection system selects
2 one of the IDCT modules based on an available level of computing resources.
- 1 15. The layered video decoding system of claim 12, wherein the selection system selects
2 one of the IDCT modules based on a preferred bit rate.
- 1 16. The layered video decoding system of claim 12, wherein the selection system selects
2 one of the IDCT modules based on a required quality level.
- 1 17. The layered video decoding system of claim 12, wherein the selection system selects
2 one of the IDCT modules based on a communication bandwidth.

1 18. A program product stored on a recordable medium for decoding a layered video
2 stream, comprising:
3 means for receiving and decoding a base layer video stream; and
4 means for receiving an enhancement layer video stream and generating a decoded
5 enhanced video output, including:
6 a plurality of inverse discrete cosine transform (IDCT) modules; and
7 means for selecting one of the IDCT modules.

1 19. The program product of claim 18, wherein each of the plurality of IDCT modules
2 comprises a different precision.

1 20. The program product of claim 19, wherein the selection means selects one of the
2 IDCT modules based on one of the group consisting of: an available level of computing
3 resources; an encoding bit rate; and a required quality level; a decoder capability; and
4 bandwidth availability.

